Is Sexting a "Risky" Behavior? Examining Risks, Risk Factors and Outcomes Associated with Phone and Internet Sexting among Males and Females

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ABSTRACT

Sexting, defined as the exchange of sexually suggestive pictures or messages via mobile phone or social networking sites (SNS), has received media attention for its prevalence and associated negative outcomes; however, research has not yet fully established risk factors for and resulting outcomes from sexting behaviors. The current study was the first empirical test of a causal path model in males and females, in which impulsivity-related traits and expectancies influence sexual behaviors through phone and SNS sexting. We also examined prevalence and perceived likelihood of common negative outcomes associated with sexting. Multiple regression and structural equation modeling (SEM) statistics were conducted on two independent undergraduate samples (n = 611, 255). The best fitting SEM Model (RMSEA = 0.04, CFI = 0.96, TLI = 0.94, and χ^2 = 176.06 (df = 75, p < .001) demonstrated a significant indirect effect of sensation seeking on phone sexting behaviors through sex-related sexting expectancies and a significant indirect effect of sensation seeking on sexual hookup behaviors through phone sexting behaviors (b = 0.06, p = 0.03), but only for females. Reverse mediations and mediation with SNS were not significant. Negative outcomes were rare: sexts being spread to others was the most common negative sexting experience (n = 21, 12%). This study suggests the viability of personality and expectancies affecting sexual hookup behaviors through engagement in sexting behaviors. It also suggests that although direct negative outcomes associated with sexting are thought to be common, they were rare in the current sample.

KEY WORDS: sexting, sexual behavior, impulsivity, expectancies

INTRODUCTION

Approximately 13-68% of young adults (aged 18-24) report engaging in sexting, defined as the act of sending sexually suggestive or provocative pictures or messages via mobile phone or social networking Internet sites (SNS; Benotsch, Snipes, Martin, & Bull, 2012; Dir, Coskunpinar, Steiner, & Cyders, 2013a; Gordon-Messer, Bauermeister, Grodzinski, & Zimmerman, 2012; Mitchell, Finkelhor, Jones, & Wolak, 2012). Despite burgeoning empirical findings on the prevalence of sexting, much of what we know about the risks associated with sexting are based on media and anecdotal reports (e.g., Chalfen, 2009). Common sexting risks include the possibility of being rejected or humiliated, having private intimate information spread to others, being pressured into sexting by others, or legal trouble (Chalfen, 2009; Jolicoeur & Zedlewski, 2010; Siegle, 2010). Recent work identified three domains of common expected outcomes associated with sexting among young adults: expectations that sexting leads to sexual encounters (e.g., *sexting makes it more likely to "hook up" or have sex*; see also Lenhart, 2009; The National Campaign [TNC], 2008), expectations that sexting has positive affect outcomes (e.g., *sexting makes one feel happy or raises one's self-esteem*), and expectations that sexting has general negative outcomes (e.g., *sexting makes one feel dirty or ashamed*). In general, females report more negative outcome expectancies associated with sexting, suggesting differential beliefs about sexting between males and females. Although there is evidence that these expectancies are significantly related to sexting (Dir et al., 2013a); it is unclear whether these expected outcome differences represent true differential occurrences of negative experiences across males and females, or whether media reports affect these expectations.

We do know, however, that sexting is related to sexual activity (Benotsch et al., 2012; Dir, Cyders, & Coskunpinar, 2013b; Ferguson, 2011; Henderson, 2011), aoften between new

sexual partners (Benotsch et al., 2012). Sexting is associated with sexual "hookup" behaviors, which are defined as unplanned, casual sexual encounters (both coital and non-coital) between individuals who are not romantically committed and who have no intentions of developing a committed relationship (Dir et al., 2013b; Stinson, 2010). These hookup behaviors are of greater risk because they are more likely to be nonconsensual (e.g., Gute & Eshbaugh, 2008; Owen & Fincham, 2011; Paul, McManus, & Hayes, 2000), and to result in more negative sexual health outcomes, especially as the number of sexual hookup partners increases (Cook & Clark, 2005; Thompson, Kao, & Thomas, 2005).

The relationship between sexting and sexual hookup behaviors could be exacerbated by personality traits that are risk factors for both sexting and sexual hookups. The literature suggests two main personality traits that are of interest to the current study – negative urgency and sensation seeking. Sensation seeking, which is defined as the tendency to seek out new and exciting experiences (Whiteside & Lynam, 2001), is associated with sexting (Dir et al., 2013b) and sexual risk-taking (e.g., Donohew et al., 2000; Hoyle, Fejfar, & Miller, 2000; Justus, Finn, & Steinmetz, 2000; Paul et al., 2000; Veléz-Blasini, 2008). Negative urgency, defined as the tendency to act rashly in response to extreme negative emotions (Whiteside & Lynam, 2001), is also associated both with sexual behavior (Deckman & DeWall, 2011), and sexting (Dir et al., 2013b). Although not found in previous research, lack of planning, defined as the tendency to not think before acting, may also be a prime trait of risk for sexting based on its association with sexual behaviors (Kahn, Kaplowitz, Goodman, & Emans, 2002; Khurana et al., 2012).

Emerging evidence for the role for sexting expectancies, sensation seeking, negative urgency, and lack of planning in predicting sexting can be understood within the Acquired Preparedness Model (AP Model; Smith & Anderson, 2001). The AP Model suggests that

impulsivity influences risk-taking directly by increasing the likelihood of risk-taking, and indirectly by increasing the likelihood of remembering positive behavioral outcomes associated with risk-taking, which then increases the likelihood of engaging in the behavior in the future (Smith & Anderson, 2001). For example, sensation seeking predicts sexual behaviors directly (e.g., Justus et al., 2000), and indirectly through endorsement of sex-related alcohol expectancies (Hendershot, Magnan, & Bryan, 2010; Hendershot, Stoner, George, & Norris, 2007; White, Fleming, Catalano, & Bailey, 2009), such that sensation seekers focus on the arousing and exciting effects of engaging in sexual intercourse while drinking, thus, driving them to repeat the behavior in the future.

The current study has two main aims: First, we sought to conduct the first empirical test of the AP Model for sexting behaviors, as related to risk factors including sensation seeking, negative urgency, lack of planning, and sexting expectancies, and also to extend this model and examine how sexting might relate to engagement in sexual hookup behaviors. We were also interested in the viability of this model across males and females. Although the current study is based on cross-sectional data, thereby limiting causal determination, support of this model would be the first step in a program of research to examine how these risk factors relate to sexting, and how sexting relates to the engagement in sexual hookup behaviors. Success of this study would provide rationale to examine this in a future longitudinal design. We view this cross-sectional approach as an important first step in the sequential process of theory testing.

Based on previous research (Dir et al., 2013a), we hypothesized that the relationship between sensation seeking and sexting would be mediated by sex-related sexting expectancies, as consistent with the AP model. Based on data suggesting two unique sexting behaviors, sexting via mobile phone and sexting via SNS (Curnutt, 2012; Dir et al., 2013a; Mitchell et al., 2012),

we examined this hypothesis with these two separate outcomes. We also tested a causal pathway where sexting predicted sexual hookups, again with both phone sexting and SNS sexting (see Figure 1 for illustration of model), using multi-group analysis across males and females.

The second aim was to examine the prevalence and perceived likelihood of negative sexting outcomes, and how these might differ across males and females. Although inherently thought to be "risky," it is possible that sexting could also be occurring in non-maladaptive ways (such as among committed partners; Dir et al., 2013a; Drouin & Landgraff, 2011; Weisskirch & Delevi, 2010), and might not, in fact, be related to high rates of negative outcomes. In fact, given the high rates of sexting, as well as prevalent beliefs about the potential sex-related and overall positive outcomes from sexting (Dir et al., 2013a), it is likely that sexting has positive outcomes as well. We hypothesized that negative outcomes from sexting would be infrequent in the overall sample, based on the lack of *empirical* findings on negative sexting experiences, but more commonly reported in females than in males. Additionally, we hypothesized that negative sexting experiences would positively predict sexting behaviors, such that those who engage in sexting are more likely to have a negative experience, whereas perceived sexting risks would negatively predict sexting behaviors, such that individuals who perceive sexting as risky would refrain from sexting. Finally, we predicted that sensation seeking would positively predict negative sexting experiences, due to their attraction towards risk (e.g., Zuckerman & Kuhlman, 2000), and would negatively predict perceived sexting risks, because sensation seeking is thought to bias expectancies about risk-taking behaviors, and because sensation seekers report more risk tolerance (e.g., Donohew et al., 2000; McCarthy, Kroll, & Smith, 2001; Raffaelli & Crockett, 2003; Zuckerman, 1971).

Study 1: A First Test of the AP Model of Risk as Applied to Sexting and Sexual Behavior

METHOD

Participants and Procedures

The sample consisted of 611 undergraduate students enrolled in a large, public, US Midwestern university. Mean age of the sample was 21.2 years (*SD* = 5.4, range 18 – 51 years); 77.3% female and 77.0% Caucasian (see Table 1 for demographic information). Participants were recruited through an Internet database available to all students enrolled in semester introductory psychology courses. Participants were required to participate in 2 hours of research for course credit, and had the option of choosing this study, other posted research studies, or alternative writing assignments. Potential participants were told they were being asked to participate in a study about sexting behaviors, including why people sext, expectations and consequences from sexting, as well as personality factors that might relate to this behavior. All participants had to be at least 18 years old to participate and received course credit for their participation. The measures (discussed below) and informed consent procedures were completed via an online survey database in accordance with IRB approval.

Measures

Sexting Behaviors Scale (SBS; Dir et al., 2013a, 2013b). The SBS is a 10-item scale assesses the prevalence and frequency of sexting behaviors**.** Items for the SBS were created to reflect a number of different sexting behaviors, such as sending and receiving sexually explicit messages and pictures via Internet SNS and via mobile phone. Nine items assess for sending, receiving, and responding to picture or text messages via Internet SNS or mobile phone, and are measured on a 5-point Likert scale from 1 (*never*) to 5 (*frequently*). One item assesses the number of people with whom one has sexted. Factor analyses indicate two scales on the SBS: one representing the tendency to send or receive sexting messages or pictures via mobile phone

(phone sexting; comprising 6 items and 54.4% of the variance in the current sample; $\alpha = 0.93$), and one representing the tendency to send or receive sexting messages or pictures via SNS (SNS sexting; comprising 3 items and an additional 18.8% of the variance in the current sample; $\alpha = 0.73$). These two factors are significantly correlated ($r = 0.39$, $p < 0.001$).

Sextpectancies Measure (Dir et al., 2013a). This is a 36-item scale measuring different expectancies that people have about sexting. The scale measures the following domains of expectancies for *sending* sexts: sexual (six items; $\alpha = 0.83$); positive affect (five items; $\alpha = 0.82$); negative affect (seven items; $\alpha = 0.87$); and the following domains for *receiving* sexts: sexual (four items; $\alpha = 0.86$); positive affect (six items; $\alpha = 0.89$); negative affect (six items; $\alpha = 0.90$).

UPPS-P Impulsive Behavior Scale (Lynam, Smith, Cyders, Fischer, & Whiteside, 2007). Three subscales from the UPPS-P (Lynam et al., 2007) were used to measure lack of planning ($\alpha = 0.76$ in the current sample), negative urgency ($\alpha = 0.88$ in the current sample), and sensation seeking ($\alpha = 0.82$ in the current sample) impulsive tendencies. Responses are based on a 4-point Likert scale from 1 (*agree strongly*) to 4 (*disagree strongly*), and items are coded and averaged so that a higher value indicates more impulsive behavior.

Sexual Hookup Questionnaire. This is a 4-item scale assessing history of sexual hookup behavior ($\alpha = 0.91$ in the current sample). Responses are on a 7-point scale based on the number of non-romantically committed partners (from 0 partners to 9+ partners) with whom one has engaged in specific sexual behaviors, such as vaginal intercourse, anal intercourse, and oral sex.

RESULTS

Sexting, Impulsivity-Related Traits, and Sexual Hookup Behaviors

Correlational and group comparison analyses were conducted using a $p < 0.01$ to correct for family-wise error (see Table 2 for full results). Correlational analyses revealed a significant relationship between sexual hookups and both phone sexting ($r = 0.37$, $p < 0.001$) and SNS sexting ($r = 0.20$, $p < 0.001$). Phone sexting was related to sex-related sexting expectancies ($r = 0.34$, $p < 0.001$), sensation seeking ($r = 0.19$, $p < 0.001$), negative urgency ($r = 0.20$, $p < 0.001$), and lack of planning ($r = 0.18$, $p < 0.001$). SNS sexting was related to sensation seeking ($r = 0.13$, $p < 0.01$), negative urgency ($r = 0.10$, $p < 0.01$), lack of planning ($r = 0.11$, $p < 0.01$), age ($r = 0.11$, $p < 0.01$), and sex ($r = 0.11$, $p < 0.01$).

Phone sexting ($M = 2.04$, $SD = 0.82$) was significantly more common than SNS sexting ($M = 1.19$, $SD = 0.43$) ($t = 27.09$, $df = 610$, $p < 0.001$), such that participants reported phone sexting "a few times" or "occasionally," while most participants reported "rarely" or "never" sending SNS sexts. Males and females did not differ on phone sexting ($t = 0.61$, $df = 600$, $p = 0.55$), negative urgency ($t = 0.62$, $p = 0.54$), lack of planning ($t = 1.60$, $df = 600$, $p = 0.11$), sexual hookup behaviors ($t = 2.31$, $df = 600$, $p = 0.02$), or sex-related sexting expectancies ($t = 2.05$, $df = 600$, $p = 0.04$), although the last two variables did approach significance. Males reported significantly higher levels of SNS sexting ($t = 3.40$, $df = 600$, $p < 0.001$) and sensation seeking ($t = 4.42$, $df = 600$, $p < 0.001$). Phone sexting differed significantly across relationship status ($F = 9.95$, $df = 4$, $p < 0.001$), but SNS sexting did not ($F = 1.92$, $df = 4$, $p = 0.11$). Those who were casually dating ($M = 2.28$, $SD = 0.72$, $n = 43$), in a relationship ($M = 2.22$, $SD = 0.82$, $n = 257$), and married ($M = 2.04$, $SD = 0.82$, $n = 31$) were more likely to engage in phone sexting than those who were single ($M = 1.82$, $SD = 0.82$, $n = 234$) or cohabitating ($M = 1.79$, $SD = 0.68$, $n = 37$).

Causal Path Model: Sexting and Sexual Hookup Behaviors

Next, we tested two causal path models. We tested these models in Mplus using SEM with the weighted least squares mean variance (WLSMV) method (Muthén & Muthén, 2010). For the model identification, sensation seeking (SS), lack of planning (LPL), and negative urgency (NUR) were each represented as latent variables in the model because previous findings support the unidimensional nature of the UPPS-P impulsivity facets (see Cyders, Flory, Rainer, & Smith, 2009). For each facet, three parcels of items were used as indicators for each trait (as was used in Cyders et al., 2009 and as supported by Hagtvet & Nasser, 2004; Little, Cunningham, Shahar, &Widamon, 2002; Rushton, Brainerd, & Pressley, 1983). Sexting behaviors (mean score from the Phone sexting subscale and mean score from the SNS sexting subscale), sexual hookup behaviors (mean score from Sexual Hookup Behavior Questionnaire), and sex-related sexting expectancies (mean score from sex-related Sextpectancies subscale) served as continuous dependent variables in the model. Correlations and regressions were identified in the model, as well as two indirect paths: (1) indirect path from SS to sexting (both subscales) through sex-related expectancies, and (2) indirect path from SS to sexual hookup behaviors through sexting (both subscales). To evaluate model fit, the following fit indices were examined to determine the best fitting model: the Comparative Fix Index (CFI; Bentler, 1990), the root mean square error of approximation (RMSEA), the Tucker-Lewis Fit Index (TLI), and the chi-square test of model fit (χ^2). Guidelines for what constitutes a good fit vary, although a CFI and TLI above either .90 or .95 is thought to represent very good fit (Hu & Bentler, 1999; Kline, 2011), and RMSEA values of .06 or lower are thought to indicate a close fit, .08 a fair fit, and .10 a marginal fit (Browne & Cudeck, 1992; Hu & Bentler, 1999). Chi-square values that are closer to zero and not significant are suggestive of good fit (Kline, 2011).

Our initial model included direct and indirect pathways through both phone and SNS sexting. The model fit was good: RMSEA = 0.06 (confidence interval 0.05 – 0.07), CFI = 0.93, TLI = 0.90, and χ^2 = 233.17 (*df* = 76, $p < 0.001$). However, examination of the model coefficients demonstrated non-significant relationships between SNS sexting and all impulsivity-related traits, (b = -0.31, p = 0.26 for sensation seeking; b = 0.19, p = 0.42 for negative urgency, and b = -0.21, p = 0.50 for lack of planning), and sex-related sexting expectancies (b = 0.01, p = 0.97). There was no significant mediation of the relationship between sensation seeking and SNS sexting by sex-related sexting expectancies (b = 0.001, p = 0.97), for the relationship between sensation seeking and sexual hookup behaviors by SNS sexting (b = -0.03, p = 0.27).

Therefore, we tested an alternative model in which we examined the mediational relationship using phone sexting only. This model produced a better fit to the data: RMSEA = 0.04 (confidence interval 0.03 – 0.05), CFI = 0.96, TLI = 0.94, and χ^2 = 176.06 (*df* = 75, $p <$ .001), χ^2 difference = 57.11, *df* = 1, $p < 0.001$. This model and associated findings are presented in Figure 1. Sensation seeking was significantly associated with sex-related Sextpectancies (b = 0.28, $p < 0.001$) and phone sexting behaviors (b = 0.19, p = 0.02). Negative urgency was significantly related to phone sexting behaviors (b = 0.16, p = 0.03), and was significantly correlated with sensation seeking (r = 0.06, $p <$ .001) and lack of planning (r = 0.10, $p <$ .001). Lack of planning was significant associated with sexual hookup behaviors (b = 0.36, $p < 0.001$) and was significantly correlated with sensation seeking (r = 0.05, $p <$ .001). Sex-related sexting expectancies were significantly associated with phone sexting behaviors (b = 0.29, $p <$ .001). Both phone sexting behaviors (b = 0.30, $p <$ .001) and SNS sexting (b = 0.09, $p <$ .001) were associated with sexual hookup behaviors. Sexual hookup behaviors were associated with age (b

= 0.04, $p < .001$) and relationship status ($b = 0.13$, $p < .001$), but not gender ($b = -0.09$, $p = 0.23$).

For the indirect effects, there was a significant indirect effect of sensation seeking on phone sexting behaviors through sex-related sexting expectancies, suggesting that sex-related sexting expectancies partially mediated the relationship between sensation seeking and sexting behaviors ($b = 0.08$, $p = 0.004$). The indirect effect of sensation seeking on sexual hookup behaviors through phone sexting behaviors was also significant ($b = 0.06$, $p = 0.03$).

We then examined a reverse mediation model, in which the relationship between sensation seeking and phone sexting was mediated by sexual hookup behaviors. This model had a worse fit to the data: RMSEA = 0.06 (confidence interval 0.05 – 0.07), CFI = 0.92, TLI = 0.89, $\chi^2 = 261.21$ ($df = 80$, $p < .001$), χ^2 difference = 85.15, $df = 5$, $p < 0.001$. There was no significant indirect effect of sensation seeking on phone sexting through sexual hookup behaviors ($b = 0.03$, $p = 0.23$).

Finally, we then tested the best-fitting model in a multi-group design, by gender. Constraining the factor loadings to be equal across males and females did worsen the fit indices: RMSEA = 0.05, CFI = 0.94, TLI = 0.91, $\chi^2 = 303.19$ ($df = 156$, $p < .001$), χ^2 difference = 127.13, $df = 81$, $p < 0.001$. Examination of the factor loadings demonstrated that the indirect effects generally held for females ($b = 0.08$, $p = 0.01$ for the indirect effect of sensation seeking on phone sexting by sex-related sexting expectancies; $b = 0.05$, $p = 0.05$ for the indirect effects of sensation seeking on sexual hookup behaviors through phone sexting) but not for males ($b = 0.06$, $p = 0.35$ for the indirect effect of sensation seeking on phone sexting by sex-related sexting expectancies; $b = 0.15$, $p = 0.09$ for the indirect effects of sensation seeking on sexual hookup behaviors through phone sexting).

Study 2: Identifying Perceived and Experienced Negative Outcomes associated with Sexting

METHODS

Participants and Procedures

The sample consisted of 255 undergraduate students enrolled in a large, public, US Midwestern university. Mean age of the sample was 21.4 years (SD = 4.18 range 18 – 45 years); 70.6% female and 77.6% Caucasian (see Table 1 for demographic information). Procedures were replicated from Study 1.

Measures

The Sexting Behaviors Scale (Dir et al., 2013a, 2013b). As discussed in Study 1. The phone sexting subscale ($\alpha = 0.92$) and the SNS sexting subscale ($\alpha = 0.69$) had similar coefficient alphas as in Study 1. As in Study 1, phone sexting was more common than SNS sexting ($t = 16.22$, $p < 0.001$). Males and females did not differ on phone sexting ($t = 1.09$, $p = .28$) or SNS sexting ($t = 2.39$, $p = .02$) in the current sample.

Sexting Outcomes. In order to identify common outcomes of sexting, both positive and negative, we collected both qualitative and quantitative data. There were 18 items based on a Likert scale with responses ranging from 1 (*not at all true*) to 4 (*extremely true*). In addition to these quantitative items, four qualitative open-ended questions were given to assess for other content not covered in the measure, including asking to describe any personal experiences from sexting or close friends' personal experiences from sexting and from where people learn about sexting. Internal consistency of the scale for the 18 quantitative items was $\alpha = 0.91$.

The UPPS-P Impulsive Behavior Questionnaire (UPPS-P). As mentioned in Study 1. The scale had good internal consistency in the current sample: lack of planning ($\alpha = 0.76$), negative urgency ($\alpha = 0.88$), and sensation seeking ($\alpha = 0.82$).

RESULTS

Experienced Direct Negative Outcomes Associated with Sexting

Means and percentages of endorsement for the sexting outcomes were taken to assess for the most common negative outcomes associated with sexting. Based on qualitative reports of personal experiences with sexting, out of the 175 participants who reported sexting and provided responses, experienced negative outcomes directly associated with sexting were rare: 12% (n = 21) reported they had sent a sext to someone, who later spread the sext around to other people, including friends, and in some cases, the "whole school." Eight individuals reported getting caught sending a sext; among these eight, 2.0% (n = 3) reported getting caught by their significant other sexting with someone else, and 2.0% (n = 3) reported getting caught by their parents. Nine people reported feeling regret and embarrassment from sexting (5.1%, n = 9) and among these, two individuals reported feeling "violated" and "disgusted" after receiving a sext (n = 2). Other common negative experiences included: harassment by peers after a sext was spread to others (n = 2); being "led on" or "misunderstood" from sexting (n = 3); feeling "used" or "harassed" (n = 4); sexting damaging intimate relationships (n = 3); and being threatened by others to use the sext as blackmail (n = 3).

Using a corrected $p < 0.01$ to control for family-wise error, no impulsivity traits were significantly correlated with the experience of negative sexting consequences (p's ranged from 0.25 - 0.03; see Table 2). Experienced negative sexting consequences were significantly related to both mobile phone sexting ($r = 0.40$, $p < 0.001$) and SNS sexting ($r = 0.18$, $p = 0.004$). Males and females did not differ on experienced negative sexting consequences ($t = 0.27$, $p = 0.79$). Table 3 displays prevalence rates of negative sexting experiences.

Participants also reported on their friends' or peers' negative experiences. In particular, out of the 242 participants that responded, 42.1% (n = 102) reported experiences where a friend sent a sext that was shared with others, resulting in harassment and embarrassment. As a result of sexts getting around school, five people reported having friends who faced school expulsion for sexting (n = 5), and another seven reported school suspension (n = 7). Aside from getting caught by school officials, four people reported getting caught by their parents (n = 4) and facing not only punishment, but also embarrassment. Even more serious, two people reported sexting experiences that resulted in legal consequences, with one incident involving an adult unknowingly sexting with a minor.

Perceived Risks Associated with Sexting

In addition to the data collected on specific individual experiences, items also assessed people's perceived risks sexting (i.e., perceived negative outcomes of sexting that were not based on personal experience, per se). Table 4 shows the rates of perceived sexting risks: 95.3% of participants reported *sexts being shared with others* as a major risk. Additionally, 96.5% (n = 246) of the sample believed *regret* is a major sexting risk, and 95.3% believed sexts could be used as *blackmail* (n = 243). There were no significant gender differences in perceived sexting risks (t = -1.46, p = 0.15). Perceived sexting risks were significantly and inversely related to phone sexting (r = -0.27, $p < 0.001$), but was unrelated to SNS sexting (r = 0.04, p = 0.54), experienced negative sexting experiences (r = -0.05, p = 0.42), and all impulsivity-related traits (p's ranged from 0.04 - 0.74) (see Table 2).

Impulsivity Traits, Negative Sexting Outcomes, and Perceived Sexting Risks

Next, multiple regressions were conducted using SPSS 19.0 (SPSS Inc., 2010) to determine whether negative sexting experiences and perceived sexting risks are related to

sexting, using a corrected $p < 0.01$. After controlling for the effects of age and gender, negative sexting experiences were related to phone sexting ($\beta = 0.38$, $p < 0.001$), but not to SNS sexting ($\beta = 0.06$, $p = 0.34$). Age and gender were unrelated to negative sexting experiences ($\beta = 0.05$, p – 0.40 and $\beta = 0.02$, $p = 0.72$, respectively). Perceived sexting risks were negatively associated with phone sexting ($\beta = -0.38$, $p < 0.001$), but were unrelated to SNS sexting (although this fell just short of significance using our corrected p-value: $\beta = 0.15$, $p = 0.02$), age ($\beta = -0.05$, p =0.43), and gender ($\beta = 0.09$, $p = 0.15$). Of note is that the experience of having a negative consequence from sexting was unable to predict perceived sexting risk, either when included in a model alone with age and gender ($\beta = 0.11$, $p = 0.13$) or when entered into a model with the impulsivity-related traits ($\beta = 0.11$, $p = 0.11$).

Next, to determine which impulsivity facets are related to negative sexting experiences and perceived sexting risks, we conducted two separate regression analyses. First, we conducted a multiple regression analysis on perceived sexting risks. Negative urgency ($\beta = 0.19$, $p = 0.01$) and sensation seeking ($\beta = -0.19$, $p = 0.01$) were significantly related; age ($\beta = -0.04$, $p = 0.57$), sex ($\beta = 0.02$, $p = 0.77$), and lack of planning ($\beta = -0.10$, $p = 0.18$) were not significantly associated with perceived sexting risk. Second, we conducted a logistic regression on the binary outcome of personally experiencing a negative outcome of sexting (yes $n = 54$ vs. no $n = 151$) using age, gender, negative urgency, lack of planning, and sensation seeking. The only variable to approach significance was lack of planning ($B = 0.81$, $p = 0.03$). Age, gender, negative urgency, and sensation seeking were unrelated to the experience of having a negative consequence from sexting.

DISCUSSION

The current study found that there are two separable factors of sexting, mobile phone sexting and SNS sexting, and that these factors are differentially related to risks associated with sexting behaviors. Specifically, phone sexting overall was more common in a young adult college sample, and males report higher levels of SNS sexting than do females. Interestingly, phone sexting alone was associated with sensation seeking and sex-related sexting expectancies, and mediated the relationship between sensation seeking and sexual hookup behaviors, but only for females. Alternatively, the relationship between sensation seeking and phone sexting was not mediated by sexual hookup behaviors, providing initial evidence for the temporal time course of phone sexting to sexual hookup behaviors, although this should be examined in prospective designs.

We provided initial evidence for the validity of using the AP model of risk (Smith & Anderson, 2001) as applied to sexting behaviors, in that the relationship between sensation seeking and phone sexting was mediated by sex-related sexting expectancies, but only for females in the current study. Although the causal direction of this cannot be established in the current study, previous work has validated the role of sensation seeking for behavior through behavioral expectancies (e.g., Hendershot et al., 2007, 2010; White et al., 2009), thus suggesting viability o of the causal direction examined here. Additionally, reverse mediation analyses were not significant in the current sample. This study provides a strong initial test of the theory that impulsivity affects both sexting (at least phone sexting) and sexual hookup behaviors through mediating variables, and although it is limited in causal determination due to its cross-sectional design, such initial inquiries are a necessary step for causal model theory testing and such findings allow for the subsequent testing of these hypotheses in future prospective work.

Interesting, although sexting is often purported to be risky and related to multiple negative outcomes, the data in the current study suggest that such statements might be overstated. Although individuals perceived sexting as risky (for instance, 95.3% of respondents believed that sexts could be shared with others), the actual reported occurrence of such negative outcomes is low (e.g., only 12% of participants reported having their sext shared with others). Although this is only based on one sample, this data might suggest that sexting itself is not as risky as once believed. In fact, individuals might be sexting for reasons such as maintaining a committed relationship. In the current sample, phone sexting was more common among individuals who were casually dating, in a committed relationship, or who were cohabitating, rather than those who were single or married. Sexting has been thought to lead to positive behavioral outcomes as well, including making it more likely to have sex, or making one feel aroused, excited, or happy (see Dir et al., 2013a). Therefore, the current data suggest that, at least in the current sample, negative outcomes directly associated with sexting are rare. We hypothesize, however, that even if direct negative consequences from sexting are rare, indirect negative consequences, such as those that are related to sexual hookup behaviors, might be more frequently linked to sexting. Recent work has hypothesized sexting to be a risk factor for sexual assault, especially during alcohol use, since it increases the likelihood of sexual hookups, many of which are nonconsensual (e.g., Owen & Fincham, 2011; Paul et al., 2000), and because they are likely to have more negative sexual health outcomes, especially as the number of sexual hookup partners increases (Cook & Clark, 2005; Thompson et al., 2005). This was not examined in the current study, but would be a viable and interesting aspect of future direction for this field.

However, individuals still perceive sexting as risky, and these perceptions are unrelated to the actual experience of negative sexting outcomes, but are predicted by negative urgency,

and, inversely, by sensation seeking, further corroborating the view that sensation seeking biases perceptions about risk-taking (e.g., Smith & Anderson, 2001), and might lead one to view sexting as less risky. Also, contrary to study hypotheses and previous work (Dir et al., 2013a), males and females do not report different levels of negative outcomes associated with sexting.

The current study does have some limitations. First, the primarily Caucasian, female sample might limit generalizability, especially the robustness of our SEM model. Second, a full examination of positive outcomes associated with sexting was not examined, but should be in future work. Third, sampling procedures in which participants self-selected into a study on sexting might bias results and future attempts should employ less biased recruitment procedures. Fourth, the cross-sectional nature does not allow for causal determination, but does provide a first test of this causal path model, which can inform future work. Additionally, the reverse mediation models were not supported in the current analysis, providing some support for the causal direction examined in this study. Fifth, the low rates of sexting, particularly SNS sexting, might have lead to the null mediational models using SNS sexting, and these mediation models should be examined more fully in samples in which SNS sexting is more frequent.

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Table 1

Demographic Information for Studies 1 and 2.

	Mean (SD) or N (%)	
	Study 1	Study 2
Male	130 (21.6)	75 (29.4)
Female	472 (77.3)	180 (70.6)
Race		
Caucasian	463 (77.0)	198 (78.3)
African-American	67 (11.1)	29 (11.4)
Hispanic/Latino	18 (3.0)	10 (4.0)
Asian	19 (3.2)	5 (2.0)
Other	34 (5.7)	11 (4.3)
Technology [a]		
Facebook account	562 (93.7)	-
Mobile phone	597 (99.3)	-
Sexual Orientation		
Homosexual	18 (3.0)	7 (2.7)
Heterosexual	559 (92.9)	238 (93.3)
Bisexual	6 (1.0)	8 (3.1)
Other	6 (1.0)	2 (0.8)
Age	21.2 (5.4)	21.4 (4.2)
Sample Size	611	255

	Mean (SD) or N (%)	
	Study 1	Study 2
Study Variables		
Sexual Sextpectancies	2.62 (0.79)	--
Sext Risks	2.55(0.89)	2.48 (0.63)
Phone Sexting	2.04 (0.82)	2.13 (0.86)
SNS Sexting	1.20 (0.43)	1.28 (0.47)
Sexual Hookups	2.02 (0.88)	--
NUR	2.28 (0.62)	2.28 (0.58)
LPL	1.83 (0.48)	1.91 (0.47)
SS	2.75 (0.60)	2.79 (0.58)

Note. [a] Estimates refer to individuals who reported having a Facebook account and owning a mobile phone.

Table 2

Correlations among impulsivity traits, sexting behaviors, and sexual behaviors, and sexting risks.

	Phone Sext	SNS Sext	Sex	Sexps	SS	NUR	LPL	Age	Gender	Relation	Experience Sext Con	Perceived Sext Risk
Phone Sext		.37**	.34**	.34**	.19**	.20**	.18**	-.01	-.03	.14*	.40**	-.27**
					.29**	.19*	.15	.08	-.07			
SNS Sext			.20**	.09	.13*	.10*	.11*	.11*	.11*	-.01	.19*	.04
					.12	.18*	.05	.09	-.15			
Sex				.16**	.06	.13*	.22**	.33**	-.14*	.09		
Sexps					.15**	.09	.06	.03	-.08	.04		
SS						.19**	.21**	-.14**	-.18**	-.06	.07	-.13
						.19*	.21**	-.13	-.30**			
NUR							.36**	-.05	-.07	-.06	.14	.09
							.39**	-.04	-.04			
LPL								-.05	-.07	-.01	.08	-.02
								-.11	.08			

	Phone Sext	SNS Sext	Sex	Sexps	SS	NUR	LPL	Age	Gender	Relation	Experience Sext Con	Perceived Sext Risk
Age									-.03 -.11	.38**	.08	-.07
Gender										.06	-.02	.09
Relation												
Experience												
Sext Risk												-.05

Note. * $p < .01$, ** $p < .001$. [1] Study 1 $N = 611$. [2] Study 2 $N = 255$. SBS: sexting behaviors. Sex: number sexual partners. Sexps: sex-related Sextpectancies. SS: sensation seeking. PUR: positive urgency. NUR: negative urgency. LPL: lack of planning. LPS: lack of perseverance. Relation: relationship status (1 = single, 2 = in a committed relationship). Experience: personal negative sexting experience (1 = yes, had a personal negative sexting experience, 2 = no).

Table 3

Reported Direct Negative Outcomes Associated with Sexting.

	Personal Experience[1]	Friend Experience[2]
Negative Sexting Experience	*N* (%)	*N* (%)
Sexts sent to other people.	21 (12)	102 (42.1)
Caught sending a sext.	8 (5)	
Caught by significant other sexting with someone else.	3 (2) 3 (2)	
Caught by parent sexting.		5 (2.1)
School expulsion resulting.		7 (2.9)
School suspension resulting.		4 (1.7)
Parental punishment.		
Regret and embarrassment after sexting.	9 (5.1)	
Feeling "violated" and disgusted."	2 (1.1)	
Harassment by peers (after sext spread to others)	2 (1.1)	
Being "led on" or "misunderstood" sexting.	3 (1.7)	
Feeling "used" or "harassed" by sexting partner.	4 (2.3)	
Sexting damaging relationships.	3 (1.7)	
Being threatened to use sexts as blackmail.	3 (1.7)	

Note. [1] $N = 175$, refers to total number of participants who responded to the question "Have you experienced any negative consequences from sexting? If so, please explain." [2] $N = 242$, refers to total number of participants who responded to the question, "Has a close friend or family member experienced any negative consequences from sexting? If so, please explain."

Table 4

Reported Perceived Risks of Sexting.

Negative consequence	Personal Experience[1*]	Sexting Risks (beliefs)	
	N (%)	Males *N* (%)	Females *N* (%)
Sexts get around to other people.	21 (12)	70 (93.3) [1]	173 (96.1) [1]
		118 (90.8) [2]	424 (89.8) [2]
Damages relationships.	3 (1.7)	58 (77.3) [1]	155 (86.1) [1]
		94 (72.3) [2]	320 (67.8) [2]
Conflicts at work.		61 (81.3) [1]	142 (78.9) [1]
		98 (75.4) [2]	310 (65.7) [2]
Legal trouble / trouble with police.		56 (74.7) [1]	141 (78.3) [1]
		95 (73.1) [2]	336 (71.2) [2]
Sexting causes ridicule from others.		63 (84.0) [1]	161 (89.4) [1]
		98 (75.4) [2]	360 (76.3) [2]
Unwanted attention.		55 (73.3) [1]	148 (82.2) [1]
		94 (72.3) [2]	364 (77.1) [2]
Unwanted sexual contact.		42 (56.0) [1]	134 (74.4) [1]
		77 (59.2) [2]	324 (68.6) [2]
Sexts used as blackmail.	3 (1.7)	4 (94.7) [1]	173 (96.1) [1]
		113 (86.9) [2]	400 (84.7) [2]
Bullying or harassment from others.	2 (1.1)	61 (81.3) [1]	161 (89.4) [1]
		97 (74.6) [2]	356 (75.4) [2]

Negative consequence	Personal Experience[1*] *N (%)*	Sexting Risks (beliefs) Males *N* (%)	Females *N* (%)
Regret	9 (5.1)	71 (94.7) [1] 117 (90) [2]	176 (97.8) [1] 428 (90.7) [2]
Sexting makes people feel "led on", "used", or "misunderstood."	7 (4.0)		

Note. [1] Study 1 $N = 255$. [2] Study 2 $N = 611$. [*] Number of participants who gave a qualitative response of personal negative sexting experience consistent with scale item.

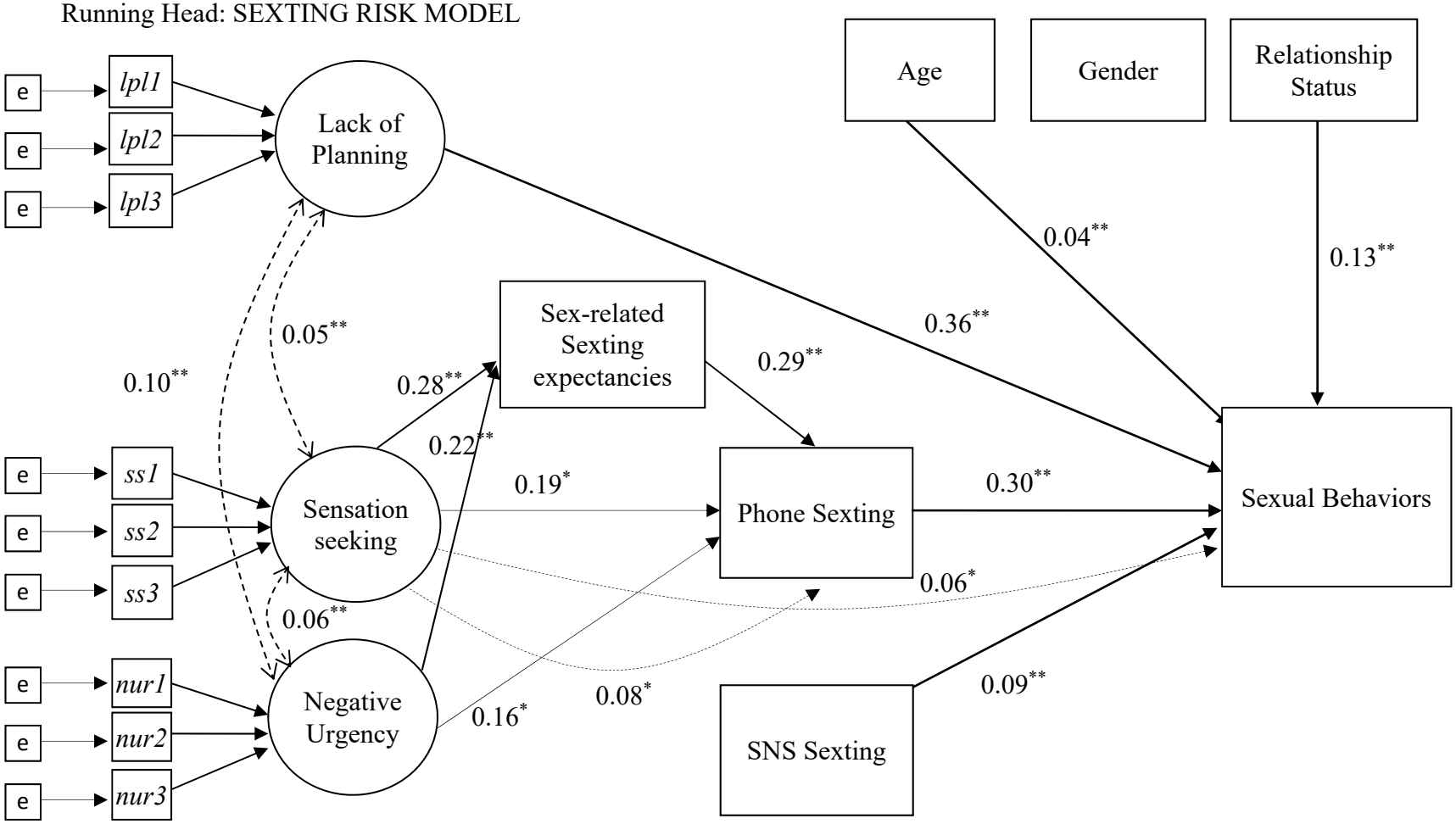

Figure 1. Best fitting risk model for sexual hookup behaviors. Lack of planning: lpl1, lpl2, lpl3 are 3 parcels for lack of planning. Sensation Seeking: ss1, ss2, ss3 3 parcels for sensation seeking. Negative urgency: nur1, nur2, nur3 are 3 parcels for negative urgency. Factor loadings for parcels were removed from figure for conciseness, but all were $p < .001$. Non-significant pathways were removed from the model for clarity. Dotted lines represent indirect effects. $^{*}p < .05$. $^{**}p < .01$.